



Biogas next frontier: Global drivers, local challenges

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BIOGAS NEXT FRONTIER: GLOBAL DRIVERS, LOCAL CHALLENGES

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Balancing economic growth with relevant environmental concerns is proving to be one of the greatest challenges of this and the next century. Practical barriers hamper the transformation to a more sustainable world. This is not only true for companies needing to respond to tight commercial metrics, but also for the public sector, on charge of providing the right framework for community and business development together with long term balanced with progress for society as a whole.

Biogas is no longer only the sub-product of wastewater treatment and/or agricultural residues processing, but a standalone source of valuable renewable energy. The role of biogas as the adding value link between waste management and energy production has a strong influence in sustainability indicators.

Complexity of the landscape for the energy and waste sectors has evolved along the last 20 years, and so did the role of biogas. From stabilization of sludge up to carbon capture for emission reductions, biogas processes proved to be one of several relevant players in the way towards a sustainable society.

In a constant-rising-the-bar scenario, the biogas landscape needs now to overcome specific challenges in order to be able to continue increasing the delivery of value to society. There are hands-on challenges like the storage of hydrogen and methane, the design of smart systems to enhance adaptation and optimization of anaerobic digestion processes into a decarbonized value chain, or the interconnection between processes related to biogas production. However, central to the increase in the intensity of value creation is the reduction of risk and improvement in processing through deep knowledge about microbiology. Anaerobic digestion technology has evolved slowly in the last 20 years, being nowadays no longer driving development of the biogas markets. New microbiological frontiers together with big data management are the new focal points for the development ellipse.